

# KNOWLEDGE

VOL. 21 / JUNE 2008

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY



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ARMY STRONG



U.S. ARMY CENTER OF SAFETY (OSD/CSA)

<http://csa.army.mil>

# KNOWLEDGE

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

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U.S. ARMY COMBAT READINESS/SAFETY CENTER

<https://csrc.army.mil>

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**Mission statement:** USACRC supports our Army by collecting, storing, analyzing, and disseminating actionable information to assist Leaders, Soldiers, Families, and Civilians in preserving/protecting our Army's combat resources.

We welcome your feedback. Please e-mail comments to [knowledge@csrc.army.mil](mailto:knowledge@csrc.army.mil).

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# BREAKING

**T**here is an interesting phenomenon occurring in our Army, but none of us should be surprised. In fact, we were taught very early in our careers that, with the correct conditions and the application of just the right methods, we can predict these outcomes. To what am I referring?

**Engaged leadership, at all echelons, saving Soldiers' lives!!**

Probably somewhat cliché at this point, but the powerful results of the successful application of this principle are seen in our statistical losses (see graph below). What does all this mean?

Accidental losses that occur when Soldiers are in an off-duty status are three times greater than when Soldiers are on duty. Would it not seem logical that during duty time is when our Soldiers encounter greater risk? During duty, do we not ask our Soldiers to jump out of airplanes, drive super-sized

equipment in the world's most inhospitable places, fly helicopters in the dead of the night at altitudes that put machines and cargo on collision courses with objects that won't give, and carry and shoot weapons that kill at ranges greater than we can see?

So ask yourself, where is the risk? Where and when are our Soldiers in the most danger of accidents that result in injury and death? The answers, according to statistics gathered over the last three years, point to times when our Soldiers are away from

Our **FIRST STEP** might be to **EMPOWER** the other **INFLUENCERS** in Soldiers' lives who are **PRESENT** during **OFF-DUTY TIMES**,"



# ING THE CYCLE

the oversight of Leaders. Our most formidable time to encounter events where death is an outcome is off duty.

Our dilemma is how do we break that cycle and return our Soldiers safely to duty after down time or off-duty activities. Now, if this were easy, we'd have already solved

the problem. It is indeed complicated, and the many dimensions of our Soldiers' lives make a single solution set improbable.

Since we own our Team, our first step might be to empower the other influencers in Soldiers' lives who are present during off-duty times. We believe Family members are highly influential forces in the lives of Soldiers, with the potential to become even

more powerful when we, as Leaders, facilitate an understanding of our concerns. Do we tell Families that they can have a positive impact and provide them with an understanding of risk? Do we set up our Families for success by providing situational awareness on the processes to reduce risk? Do we tell Family members they are Teammates and

can contribute to the success of our Team? The answer is obviously yes.

We also believe peers and Battle Buddies are combat multipliers. Soldiers will hang with Battle Buddies – but we also want our Soldiers to hang with Battle Buddies who are positive influences, not witnesses and accessories to a crime. It makes little sense to team SPC Match with PFC Gas. How can we positively influence the Battle Buddy teaming process?

Army Team – we are doing well in decreasing the accidental devastation to our formations. But we must, and can, do more. Visit the U.S. Army Combat Readiness/Safety Center Web site for additional knowledge and tools to make each and every one of our organizations "Army Safe and Army Strong."

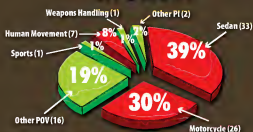
*William H. Forrester*

**William H. Forrester**  
Brigadier General, USA  
Commanding

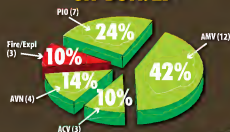
## FISCAL 2008 SOLDIER ACCIDENTAL FATALITIES

as of May 18, 2008

### OFF DUTY: 86



### ON DUTY: 29





# MAINTAINING SITUATIONAL AWARENESS IN SAFETY PROGRAMS

**S**ince taking this position, rarely a month goes by when I don't receive feedback on what I've written. That's a good thing and I appreciate your input and ideas. Command sergeants major exist to ensure information, concerns and ideas of all Soldiers are shared with those appointed over us and those we supervise.

Two-way communication and the exchange of ideas between us will facilitate a safer environment for our Army. Hopefully, you're exchanging safety best practices within formations, installations and units the same way you share mission information. Another way to support safety within your organization is to discuss accidents occurring in similar units, whether on or off your installation. Often, the difference between a Class A accident (\$1 million or loss of life) and a Class D accident (\$2,000 or more but less than \$20,000) is inches and seconds. For one reason or another, units are often reluctant to talk about or report accidents. This means other units are not able to benefit from the lessons learned. Awareness and understanding of what caused a Class D for one rotation or unit has the potential to prevent a future Class A.

The road to success in safety is well traveled; however, it is often rough and generally includes a detour through the school of hard knocks. Reporting and publicizing accidents, however difficult it may be, will reduce future accidents and the hard knocks you and others suffer while traveling this road. Sharing accident information for others to learn from

will not reduce Army accidents overall, but will educate and strengthen the safety culture we are attempting to foster. Report your accidents and ensure they make it into the Risk Management Information System (RMIS). Doing so allows others to properly plan, train and execute future missions with knowledge of the risks associated with an activity. Army Materiel Command (AMC) and the leadership of our Combat Training Centers (CTC) will tell you it is not uncommon to see units suffer the same types of incidents, rotation after rotation. Whether on a deployment or CTC rotation, sharing information and lessons learned will enable others to take precautions and not make the same mistakes.

There are several methods in place to provide and promote situational awareness of accidents in our Army. Three such tools available to Leaders are Preliminary Loss Reports (PLRs), "Got Risk?" and *Knowledge* magazine. PLRs are usually produced within 48 hours of an accident and contain the who, what, when and where of an accident, as well as recommended discussions for your formation. To receive PLRs via e-mail, visit the USACRC homepage to subscribe. "Got Risk?" is a brief synopsis of

“**SHARING** accident information for others **TO LEARN FROM** will not reduce Army accidents overall, but **WILL EDUCATE** and **STRENGTHEN** the **SAFETY CULTURE** we are attempting to foster.”

PLRs that occurred during a one-week time frame. Generally sent to battalion commanders, "Got Risk?" also affords squad Leaders the opportunity to discuss the incidents with their troops. Generally, each one contains an incident that young Leaders can relate to on a personal level. Often, both PLRs and "Got Risk?" are strategically placed in bathrooms for troops' and visitors' reading pleasure. Lastly, *Knowledge* magazine was developed in response to the continuing safety cultural transformation occurring Armywide. With a distribution of 68,000 subscribers, *Knowledge* supports our Army and the way we fight.

These tools, as with all USACRC products, enable units to become more predictive and proactive through a growing understanding and identification of accident trends. Take the time to visit the USACRC Web site at <https://crc.army.mil> and share information with others. The life you save may be an old friend or even your own.

The enemy, "Risk", can be defeated. Don't keep accidents a secret, beat risk by maintaining open, two-way communication and sharing ideas, both up and down the chain of command. «

**Todd L. Glidewell**  
Command Sergeant Major  
U.S. Army Combat Readiness/Safety Center





# Drive to survive

COL. WILL G. MERRILL III  
U.S. Army Central Command

**W**hether at home or deployed in support of the Global War on Terrorism, Leaders face a common challenge: vehicle rollover accidents.

The increased popularity of sport utility vehicles (SUVs), pickup trucks and vans at home, as well as the Army's use of high-center-of-gravity vehicles

and rented SUVs in the area of responsibility (AOR), has increased our vulnerability to rollovers. Last year, the Army lost 12 Soldiers in rollover accidents,

while another 45 Soldiers were injured. Fifteen of the accidents happened at home, but 30 occurred in the AOR. The fact that our junior Soldiers are frequently tasked as drivers, yet possess the least experience, places them and their passengers at a significantly higher risk. Any

**WEARING** a seat belt will almost always **IMPROVE** your chances of **SURVIVING A ROLLOVER** and will **DECREASE** the severity of any **INJURIES** you may receive. **BUCKLE UP**. Your life may depend on it. **”**

training we provide will help Soldiers perform better on and off duty.

Over the past decade, more and more Americans have abandoned the “family sedan” for SUVs, pickups and vans. What some drivers might not realize, though, is these types of vehicles have different handling characteristics than a sedan. Some of these characteristics are influenced by the higher center of gravity, which often contributes to rollover crashes. The rollover crash is not a new phenomenon; vehicles have been rolling over as long as people have been driving. The increase in rollovers is due to the migration from sedans to the more popular SUVs, vans and pickup trucks.

According to the National Highway Traffic Safety Administration (NHTSA), rollover accidents are relatively rare, occurring an average of once in every 40 reported crashes.

However, when they do occur, they are much more likely than most other types of crashes to result in serious injury or death. In fact, one of every three passenger vehicle fatalities occurs in a rollover crash. In Kuwait alone, we had 62 rollover accidents last year, involving Soldiers, Sailors, Airmen, Marines, civilians and contractors. Sadly, all these fatal accidents shared a common factor: the persons killed were not wearing seat belts.

Recent Department of Transportation studies indicate the vast majority of rollovers occur during ordinary driving when a driver suddenly swerves to avoid an obstacle such as a stopped car or animal in the road, or when a driver accidentally drifts off the pavement and onto the shoulder. In fatal rollovers, excessive speed and alcohol are often contributing factors. Nearly three of every four fatal rollovers occur on rural roads

with posted speed limits of 55 mph or higher. In about 40 percent of these accidents, excessive speed (either above the posted limit or too fast for road conditions or the driver’s ability) is cited as a contributing factor. Also, about half of all fatal rollovers involve alcohol — though not necessarily in excess of the legal limit. More than 80 percent of these accidents are single-vehicle crashes.

Since our fleet of vehicles in the AOR has very few sedans and more Army Motor Vehicles, SUVs, white assets (contractor vehicles) and high-center-of-gravity vehicles, our risk of rollover crashes is greater than back home. During fiscal 2007, 30 percent of U.S. Army Central

Command’s total serious motor vehicle accidents (which result in damages greater than \$20,000 or injury requiring hospitalization for more than one day) involved a rollover. Of those, 24 were fatal accidents and 11 resulted in permanent partial disabilities and/or property damage.

There are several preventive measures you can take to reduce your risk of being involved in a rollover accident, such as keeping your vehicle in good condition and driving carefully. Remember, four of every five rollovers involve no other vehicle; so, as a driver, you alone are in control. You can also substantially reduce your risk of injury by wearing a seat belt. About



three-quarters of the people killed in rollovers across the U.S. were not wearing their seat belts, and almost two-thirds of those were thrown out of their vehicles during the rollover. Buckling up keeps you inside the vehicle and protected by the passenger compartment's "safety cage."

Vehicle safety standards have made the passenger compartment the safest place to be during an accident. Passengers thrown from the vehicle during a rollover are not protected by anything. Wearing a seat belt will almost always improve your chances of surviving a rollover and will decrease the severity of any injuries you may receive. Buckle up. Your life may depend on it. <<



## REFRESHER COURSE

Everyone believes they're a good driver, but that's not always the case. Refresh your memory with the reminders below and share them with fellow Soldiers. These tips apply to driving any vehicle, whether on or off duty.

• **Don't drive too fast.** The posted speed limit is an upper limit, not a lower limit. The faster you drive, the less time you have to react to any emergency that suddenly arises on the road ahead of you. This means you'll probably end up steering more sharply and/or braking harder, both of which compromise your ability to safely control your vehicle.

• **Steering.** Many rollovers occur when drivers overcorrect their steering in response to unexpected situations, such as encountering

a stopped vehicle in their lane or accidentally driving off the pavement. Sudden steering maneuvers at high speeds or on soft surfaces can lead to rollovers. If your vehicle leaves the paved road surface, slow down gradually. Don't stomp on the brakes. Then, when it's safe to do so, ease the vehicle back onto the roadway. Don't suddenly jerk the steering wheel to get the vehicle back on the pavement.

• **Be extra careful on rural roads.** Rollovers are more likely to occur on rural roads and highways, particularly undivided, two-way roads or divided roads with no barriers. When a vehicle leaves the pavement, it can be tripped by roadside objects or soft surfaces or roll down a slope. Nearly 75 percent of all rollover crashes occur in rural areas, so be

extra careful when driving on rural roads.

• **Tires.** Improperly inflated and/or worn tires can be especially dangerous because they inhibit your ability to maintain vehicle control. Monitor your tire pressure regularly using a tire pressure gauge, not your eyeball. Temperature changes cause your tire pressure to decrease significantly, but you can't always tell that by just looking at the tires.

• **Vehicle loads.** Consult your vehicle's owner's manual to determine the maximum safe load for your vehicle, as well as proper load distribution. Passengers and baggage in vans and SUVs will raise the vehicle's center of gravity, increasing the vehicle's likelihood of rolling over.

# DYNAMIC ROLLOVER

**CALLEY WASHINGTON**, OFFICER'S TRAINING MANAGER  
 2nd Battalion, 4th Air Cavalry, 101st Airborne Division, Fort Bragg, Texas

## The Basics

**M**ost helicopter pilots have a complete and total understanding of all aspects of Chapters 5 and 9 of their aircraft operator's manual (Dash 10), or at least they would like to believe that's true. I hope some of those little nuggets of knowledge are filed away somewhere. Right now, if a pilot were to hear "pylon whirl" or "spike knock," it's likely a zombie-like trance would overtake him and a robotic response would follow. Another programmed response would be from the term "dynamic rollover." The definition is easy to repeat, but do pilots really know what it means or how quickly it can happen?







Field Manual (FM) 3-04.203, *Fundamentals of Flight*, addresses dynamic rollover; aircrew training manuals include a note in the maneuver description that the aviator must understand dynamic rollover before conducting slope operations; and Dash 10s include a slope-landing limit intended to minimize the chances of dynamic rollover.

Each helicopter is unique in its design and configuration. It's important to understand the specific characteristics of each helicopter. All types of rotor systems — rigid, semi-rigid or fully articulated — are affected to some extent. Tail rotor thrust and wind on the fuselage contribute to a rolling motion. The limits published in each technical manual should always be observed and taken into account. Exceeding published limits is likely to contribute to dynamic rollover.

### **Dynamic Rollover Sequence**

Three pieces are required to complete the dynamic rollover sequence: pivot point, rolling motion and exceeding the critical angle. Without each of these pieces, dynamic rollover won't happen. It's important to understand each of these aspects to help avoid getting into this potentially dangerous and deadly situation. The events can unfold very quickly in a seemingly safe situation. Within

seconds, aircraft control can be lost. Even the most experienced pilots can temporarily lose situational awareness and get into a dynamic rollover situation. No one is immune!

■Pivot point is the point at which the aircraft is in contact with the ground or some other object to provide an "anchor" point. Soft ground, landing gear frozen to the ground and even failure to remove tie downs can all provide the anchor point. Although aircraft with skids are different than aircraft with wheels, the dynamics are the same. Care should be taken to ensure the landing area is clear of hazards that might provide a pivot point and produce a rolling motion; e.g., stumps, forgotten tent pegs, displaced tie-down ropes, partially buried metal material, etc. Be sure to take into account any surface changes that could have occurred before takeoff, such as aircraft sinking in mud.

■Rolling motion is the continued movement of the aircraft in a lateral direction after contact with the ground or other object. Rolling motion is easier to control with collective as opposed to lateral cyclic inputs. Abrupt collective inputs should not be applied to get airborne. A large reduction in collective could result in a rolling motion in the opposite direction. As a roll rate increases, the recovery angle is further reduced with right skid (wheel) low condition, yaw inputs, crosswind, main rotor thrust almost equal to helicopter weight and center of gravity (CG) offset. Pedal inputs to reduce a yawing tendency should be smoothly coordinated with collective inputs to help maintain a stable

aircraft direction and position over the landing point.

■Exceeding the critical angle occurs when the helicopter rolls past its static angle. Each helicopter has a static rollover angle, based on its CG and the pivot point, and it is usually described where the helicopter CG is positioned over the pivot point. When a rolling motion is introduced, a dynamic rollover angle comes into being and is known as the critical angle. It's dynamic because the greater the rolling motion, the earlier the critical angle may be exceeded. The critical angle can be exceeded even if the helicopter is on a zero-degree slope. A helicopter on a slope causes the critical angle to be changed and reduced. In general, if the bank angle starts to increase to about five to eight degrees and full corrective cyclic doesn't reduce the angle, the collective should be reduced to diminish the unstable rolling condition.

Although the basic aspects of dynamic rollover don't change, each situation is unique. An understanding of the three elements involved with dynamic rollover is the key to avoiding a potentially dangerous situation. Pilots should continue to learn from their own experiences, as well as the experiences of fellow pilots. Aircraft simulators provide a way for pilots to adjust aircraft dynamics and specific profiles to allow for realistic training in dynamic rollover recovery techniques. Understanding dynamic rollover and having a healthy respect for the aircraft and its limits are the keys to safely preserving our nation's critical warfighting resources — our aircrew members and their aircraft. ◀



A photograph of a soldier in a vehicle, possibly a truck, with emergency lights flashing. The soldier is wearing a helmet and a blue uniform. The image is dark, with the lights providing the main illumination.

# BING BANG BOOM

COMPILED BY THE KNOWLEDGE STAFF  
U.S. Army Combat Readiness Safety Center  
Fort Rucker, Ala.

*Editor's Note: The names of the individuals in this story have been changed to protect the privacy of those involved.*

**S**gt. Jerry Hatcher completed his fourth day of training and, after being released at 4 p.m., went to his off-post quarters and prepared to go out to a local pub to meet two other members of his unit. About 8 p.m., he drove his standard-cab pickup — a factory-built, high-performance model with race styling — from his house to the pub for a party and live concert. A couple hours later, the other Soldiers joined Hatcher at the pub. Throughout the evening, Hatcher drank beer and other alcoholic drinks.

“Ensure **EVERYONE** in your vehicle **BUCKLES UP**. Seat belts, air bags and your vehicle’s crush zones **CAN’T PROTECT YOU** if you’re **THROWN OUT A WINDOW.**”



It was a half hour past midnight when Hatcher met a local female, Angela Branning, and her roommate, Sgt. Daryl Johnson. When the pub prepared to close at 1:30 a.m., Hatcher invited Johnson and Branning to ride with him to his home and continue the party. Despite the fact Hatcher was under the influence, Johnson and Branning got in. Branning sat in the middle while Johnson sat in the right passenger seat. Hatcher and Branning fastened their seat belts; however, Johnson—who had a habit of not buckling up—chose not to wear his seat belt.

It was only two miles from the pub to Hatcher’s house. After driving about three-quarters of a mile, he turned into the entrance of his subdivision. In an attempt to show off his truck’s performance, he

accelerated to more than 60 mph in a 25-mph zone. As he attempted to round a left-hand curve, he lost control and his truck went off the right side of the road. Sliding sideways, Hatcher’s pickup hit three mailboxes and then another pickup parked in a driveway. That impact spun Hatcher’s pickup 180 degrees clockwise and caused it to roll one and a half times before landing on its roof. As the pickup rolled, Johnson flew out the passenger-side window and landed about 50 feet away in the road. Although alive, he had suffered severe head injuries, including brain swelling. Hatcher called 911 to summon police and emergency medical services (EMS) to the accident scene. Once EMS personnel arrived, they arranged for Johnson to be evacuated by helicopter to a hospital. There, he was placed in a medically induced coma.

#### Why Did This Accident Happen?

Hatcher mixed alcohol with excessive speed and reckless driving in an attempt to impress his passengers. When police checked Hatcher’s breath alcohol content about an hour after the accident, it was .17 percent—more than twice the legal limit.

inside. By comparison, Hatcher and Branning wore their seat belts and were treated and released at the accident site.

As the driver, Hatcher was responsible for ensuring all his passengers buckled up. However, he failed to do that and, as a result, left a “fallen comrade” lying in the street.



#### Why Was Johnson Seriously Injured?

Johnson had a habit of not wearing his seat belt, which was evidenced by several traffic citations on his driving record. Being unrestrained caused him to be ejected outside the pickup’s occupant compartment, where he would have been protected by the vehicle’s airbags and crumple zones. Post-crash photographs of the truck show the passenger side of the cab was largely intact, providing adequate safe space for Johnson had he remained

#### Lessons Learned

- Blending alcohol, gasoline and asphalt is a recipe for disaster. Soldiers should never assume they can safely operate a vehicle after they have been drinking.
- Be careful who you accept rides from. If you start your trip with someone who has been drinking, you may end it with a paramedic.
- Ensure everyone in your vehicle buckles up. Seat belts, air bags and your vehicle’s crush zones can’t protect you if you’re thrown out a window. ◀



# ...And the Home of the Safe

**JAMES HAMMONDS**  
U.S. Army Technical Center for Explosives Safety  
McAlester, Okla.

**F**or many Americans, fireworks are a summer tradition. Fourth of July celebrations seem incomplete without the “rockets’ red glare” and “bombs bursting in air.” Unfortunately, some of these celebrations will end with another, less enjoyable tradition: a trip to the emergency room. By taking the proper precautions before handling fireworks, you can help ensure your personal tribute to Independence Day is a blast.

It may surprise some to learn the only difference between military explosives and fireworks is the amount of explosives filler. In the explosives community, we handle ammunition and explosives using the cardinal principle: Expose the fewest people to the smallest amount of explosives for the shortest time possible. It’s also a great rule for handling fireworks.

Before even thinking about

lighting your first fuse, make sure fireworks are legal to possess and use in your city and state. The National Council on Fireworks Safety’s Web site is a good source of information on state fireworks laws. You should also always ask your local fire or police department if fireworks are legal in your area. Although fireworks may be legal in your state, there may be reasons, such as a burn ban

due to dry weather, why their use is prohibited in some areas.

Once you’ve established that you can legally shoot fireworks in your city, make sure you buy legal fireworks. Fireworks are classified as a hazardous material and will always have a label with the manufacturer’s name and directions for use. Illegal fireworks such as M-80s, M-100s and blockbusters usually aren’t labeled and don’t have



directions. Even though banned since 1966, illegal fireworks are responsible for one-third of all Fourth of July injuries. If you know of anyone selling illegal fireworks, contact your local police department.

Unfortunately, even legal fireworks that are considered a "safe" choice for younger children, such as sparklers, can be dangerous. Sparklers can reach 1,800 F — hot enough to melt gold! — and account for more than half the fireworks injuries to children under the age of 14. If children aren't mature enough to understand the rules regarding fireworks, they shouldn't handle them. Also, if your pets are afraid of noise or easily get excited and stressed, consider keeping them indoors or in pet crates until the fireworks celebration is over.



**For more information about fireworks safety, statistics and state laws, visit the National Council on Fireworks Safety Web site at [www.fireworksafety.com](http://www.fireworksafety.com).**

If someone gets hurt using fireworks, immediately go to your family doctor or a hospital. If the injury involves the eyes, do not rub or touch them. You should also never attempt to flush the eyes because some fireworks material can be activated by water. Eye injuries from fireworks are a no-wait medical decision. If someone is burned on their skin, remove their clothing and

run cool water over the injury.

Fireworks are meant to be enjoyed and help celebrate an important event in the lives of all Americans. If used properly, they can be safe for everyone. Teach your children the right way to handle fireworks and they'll pass it on to their children. The last place anyone wants to celebrate America's independence is a hospital waiting room. <<



To help you safely celebrate the Fourth of July, the Consumer Product Safety Commission and the National Council on Fireworks Safety offer the following tips:

- Always read and follow label directions.
- Have an adult present.
- Buy from reliable sellers.
- Only use fireworks outdoors.
- Always have water handy (a garden hose and a bucket).
- Never experiment or make your own fireworks.
- Light only one firework at a time.
- Never relight a "dud" firework. Wait 15 to 20 minutes, soak it in a bucket of water

and then dispose of it in your trash can.

- Never give fireworks to small children.
- Store fireworks in a cool, dry place.
- Never throw or point fireworks

at other people.

- Never carry fireworks in your pocket.
- Never shoot fireworks in metal or glass containers.
- The shooter should always wear eye protection and never have any part of the body over the firework.

- Stay away from illegal explosives.

*Source: National Council on Fireworks Safety*

# NO BURNT OFFERS

## HELP FOR THE BACKYARD CHEF

**FRANK MCCLANAHAN**

U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

**W**hether you like to cook with propane or charcoal, the end result is the same — delicious outdoor fare that has family and friends lined up with their paper plates and plastic utensils in hand. In fact, outdoor cooking has become so popular that, according to The Weather Channel's Web site, more than half of Americans say they cook outdoors year-round because they enjoy the flavor of flame-broiled cooking so much.

Outdoor grilling can be a fun and relatively safe activity, but there is an element of risk for serious injury and property damage for the uninitiated, unprepared or careless. The following guidelines are provided to help you minimize your risk and ensure your grilling experiences are always fun, safe and successful.

### Grilling with Propane

At the Consumer Product Safety Commission's (CPSC) urging, an industry standard providing several safety features in gas grills, hoses and connections was adopted in 1995. These features limit the flow of gas if a hose ruptures, shut off the grill if it overheats and prevent the flow of gas if the connection between the tank and grill is not

leak-proof. If your grill was manufactured before 1995 and isn't equipped with these safety features, you might consider purchasing a new one this year. If your old standby is still working fine and you want to try to get a few more years out of it, be especially attentive to these safety tips:

- Set up your grill in an open area away from buildings, combustible materials and locations where children are likely to congregate and play.
- Inspect the gas hoses for cracking, brittleness, holes and leaks and make sure there are no sharp bends in the hoses or tubing that can interfere with the flow of fuel. Periodically, check the inside of the gas tubes for a buildup of spider webs, which create blockages that can result in gas backflowing into the control valves, where it can ignite. (An orange flame indicates an obstruction; flames should burn blue in color.)
- Keep propane cylinders in their upright position and never store spare filled cylinders near the grill or in your home.

■ Inspect gas hoses to ensure they are as far away as possible from hot surfaces and hot dripping grease.

■ Never use gasoline as a fuel source.

■ Do not store a filled cylinder in a hot car or trunk, as heat can increase gas pressure and possibly open the relief valve, allowing gas to escape.

According to the CPSC, each year, there are about 600 fires or explosions that occur from using gas grills, resulting in injuries to about 30 people. In order to reduce these incidents, the National Fire Protection Association published a standard which requires overflow prevention devices on propane cylinders to help prevent propane leaks that can result in fires and explosions. The new propane gas tanks can be identified by valve handles with three lobes, giving them a triangle-shaped appearance. Older tanks have valve handles with five lobes. The requirement for the new cylinders was effective April 1, 2002.

### Grilling with Charcoal

For charcoal grilling, only use starter fluids specified for those type grills. Follow the directions on the container and never

apply additional fluid once the fire has been ignited, which could result in flames traveling up the fluid stream and igniting the container. If the fire is too slow, rekindle it with dry kindling and add more charcoal as needed. Be sure to keep starter fluid away from the grill after it has been ignited and never, under any circumstance, use gasoline as a starter fluid.

Select quality charcoal for quick lighting and a long burn life. Be sure to store charcoal in a cool, dry area and keep bags of instant-lighting charcoal tightly closed. Always remember, grills remain hot long after you are through barbecuing, so, once finished, place the lid on the grill, close the vents and allow the coals to burn out completely. When they have cooled, soak the coals thoroughly with water and dispose of them in a non-combustible container. To reduce the danger of carbon monoxide poisoning, never burn charcoal inside your home, vehicle, tent or camper. Charcoal should never be used indoors. And as with



For more information on grilling safety, visit the following Web sites at [www.weather.com/activities/homeandgarden/home/grilling](http://www.weather.com/activities/homeandgarden/home/grilling) and [www.iii.org/individuals/home/tips/grilling/](http://www.iii.org/individuals/home/tips/grilling/).

# INGS:

propane grilling, always make sure you keep your children away from the fire.

The Insurance Information Institute recommends that when grilling, be sure to wear a heavy apron and flame-retardant oven mitts that fit high up over the forearm. Also, in the event of a burn, run cool water over the injury for 10 to 15 minutes. Never put butter or salve on burns because they will seal in the heat and cause further blistering. For serious burns, seek medical attention immediately.

## Food Safety

Of course, a successful cookout goes further than just

good grilling protocol. Don't forget to adhere to food safety guidelines to prevent illnesses associated with harmful bacterial contamination. Below are some helpful tips to prevent you from serving any food-borne illnesses to your guests:

- Give your grill a good cleaning by scouring the grate with a wire brush. Spray the metal cooking grid with oven cleaner and rinse thoroughly. Before each use, apply a non-stick cooking spray to prevent food from sticking. Never apply cooking spray onto a hot grill, as the propellant may be flammable.

- Protect against cross-contamination by keeping raw meats, poultry and

vegetables separate.

- Wash hands thoroughly and frequently with hot, soapy water during food preparation.

- Keep work surfaces clean and wash or change out utensils to prevent contaminating cooked meat with a utensil used to handle raw meat.

- After meat has been grilled, be sure not to place it back on a plate or platter that held raw meat.

As we approach the summer season, more and more backyard chefs will roll out their trusty grills to show off their culinary expertise. By following a few safety guidelines, you can ensure your attempt at barbeque perfection doesn't go up in flames.◀



# Important Standardization Information

The Directorate of Evaluation and Standardization (DES) publishes standardization communications (STACOMs) to provide guidance to the field and which may precede formal staffing and distribution of Department of the Army official policy. In an effort to ensure the field has the most current information, a review of all active STACOMs was recently conducted. On a recurring basis, DES will review a listing of active STACOMs and publish it on

STACOM #	Date Published	Title
06-05	June 2006	Clarification of Combat Maneuvering Flight Training Requirements
06-07	July 2006	Door Gunner Integration and Utilization
07-01	Jan. 10, 2007	Clarification of STACOM 06-06: CH-47 Qualification and ATP
07-02	Jan. 10, 2007	FADEC Training
07-03	Jan. 22, 2007	Pilot in Command Requirements
07-05	June 6, 2007	LUH UH-72 Qualification
07-07	Nov. 30, 2007	Currency Requirements for the External Operator
07-08	Nov. 30, 2007	PI Flight Requirements for O5 Commanders and Above
08-01	Jan. 11, 2008	UAS Shadow Currency
08-02	Jan. 11, 2008	UH-60 FI/SI Qualification
08-03	February 2008	CH-47 Performance Planning

## A MESSAGE FROM THE SECRETARY OF THE ARMY

Tragically, last year during the 101 days between Memorial Day and Labor Day, 77 servicemen and women died in private motor vehicle accidents. While Memorial Day

marks the beginning of summer, it also means increased traffic on our nation's roads.

Know that the choices you make at sporting events, barbecues and other summer activities can impair





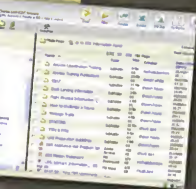
# TACOM

**CHIEF WARRANT OFFICER 5 CHARLES W. LENT**  
 Directorate of Evaluation and Standardization  
 U.S. Army Aviation Warranting Center  
 Fort Rucker, Ala.

the Army Knowledge Online (AKO) portal and in *Knowledge* magazine. To the left is a list of active STACOMS.

All previously published STACOMS not listed are rescinded and located in the rescinded STACOM folder on the AKO portal for historical purposes. Active STACOMS are available on the AKO portal DES main page: DES homepage on AKO (NIPR) at <https://www.us.army.mil/suite/page/337793>, or DES homepage on AKO-S (SIPR)

at <http://www.us.army.mil/suite/page/9746>. For more information, contact Chief Warrant Officer 5 Chuck Lent at (334) 255-9098 or e-mail [chuck.lent@conus.army.mil](mailto:chuck.lent@conus.army.mil). <<



## OM DEFENSE BERT GATES

your judgment and reaction times – all of which are necessary for safe driving.

Don't put your life, or the lives of others, in danger by making poor decisions. Most vehide accidents are the

result of alcohol, fatigue and excessive speed. Your safety, and the safety of those around you, is in your hands.

Enjoy the summer and all it has to offer, but be smart and safe. <<



## WHO'S THE BOSS?


**T**he U.S. Army Combat Readiness/Safety Center and Family and Morale, Welfare and Recreation Command have joined forces to produce the BOSS Safety Factor presentation. The initiative is designed to build awareness of hazards that can befall single Soldiers during off-duty activities.

The Army lost 76 single Soldiers to off-duty accidents in fiscal 2007. Hundreds more were injured or suffered negative results due to engaging in careless or high-risk behavior. Safety Factor identifies these

behaviors and emphasizes making better decisions to help prevent off-duty accidents. Soldiers get to see the possible outcome of their actions without learning by painful, first-hand experience.

The one-hour block of training will be shown at BOSS Council meetings and events. Safety Factor's slogan, "It only takes one second to become a statistic," drives home to Soldiers a very important reality – simple tasks and everyday activities can cause injury or death if proper precautions are not taken. <<

# Bird Strikes, Deer and moose! Oh, my!



**CHRISTOPHER TRUMBLE**  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

**W**ildlife is one of God's greatest gifts. Just like many readers of *Knowledge* magazine, I, too, enjoy outdoor activities like hiking, camping, hunting and fishing. Getting the opportunity to see wildlife in the wild rather than a zoo adds to the outdoor experience. However, certain wildlife can, at times, become safety hazards – especially on the runway.

This is especially true when talking about the threat of wildlife to aviation personnel and platforms. Even if we don't have injuries or fatalities associated with wildlife, it can hinder mission readiness and become a serious source of financial loss when aircraft are taken out of service for repairs. This article looks at wildlife hazards and offers control measures to avoid, reduce or eliminate these risks.

The Federal Aviation Administration (FAA) issues airport operating certificates for airports serving certain aircraft

under Title 14, Code of Federal Regulations (CFR), Part 139, Section 139.337. The FAA directs, by regulation, that all airfields in the U.S. that have a wildlife hazard problem conduct a wildlife hazard assessment (WHA) and create a wildlife hazard management plan (WHMP). The WHMP, of course, is to manage and control wildlife that pose a potential risk to public safety, caused by aircraft collisions with wildlife. The FAA relies heavily on the assistance of the U.S. Department of Agriculture Animal and Plant Health Inspection Services and

Wildlife Services (WS) to review and contribute to such plans.

The Animal Damage Control Act of March 2, 1931 (7 USC 426-426c, as amended), authorizes the secretary of agriculture to manage wildlife that becomes hazardous to agricultural interests, other wildlife or human health and safety. Bird strikes and animals on runways are examples of hazards to human health and safety. Additionally, the secretary of agriculture is authorized to cooperate with states, individuals, public and private agencies, organizations and institutions in the control of



noxious animals, including wildlife hazards to aviation. The WS is recognized throughout the world as an expert in dealing with wildlife damage management issues because of its experience, training and personnel.

A memorandum of understanding (MOU) between the Department of Defense (DOD) and the WS (No. 12-34-71-000307-MU) establishes a cooperative relationship between the organizations for resolving wildlife hazards to aviation. Army Regulation (AR) 95-2, *Airspace, Airfields/Heliports, Flight Activities, Air Traffic Control and Navigational Aids*, paragraph 13-3, specifically mentions the use of a WHMP to control wildlife hazards at Army airfields. Additionally, Army Field Manual (FM) 3-04.300, *Flight Operations Procedures*, paragraph 2-58, lists a requirement for airfield commanders to maintain an airfield operations manual. The WHMP is listed as a component of the airfield operations manual.

The FAA requires a WHA be conducted when any of the following occurs (14 CFR 139.337(b)):

- An aircraft experiences multiple wildlife strikes.
- An aircraft experiences substantial damage from striking wildlife. (Substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance or flight characteristics of the aircraft and would normally require major repair or replacement of the affected component.)
- An aircraft experiences an engine ingestion of wildlife.
- Wildlife of a size, or in numbers, capable of causing events described above is observed to

have access to any flight pattern or aircraft movement area.

According to 14 CFR 139.337(c), at a minimum, the WHMP shall contain the following:

- An analysis of the events or circumstances that prompted the assessment.
- Identification of the wildlife species observed and their numbers, locations, local movements and daily and seasonal occurrences.
- Identification and location

- Office of the Director of Army Safety
- U.S. Army Forces Command Doctrine Command
- U.S. Army Materiel Command Operations Command
- U.S. Army Space and Missile Defense Command/U.S. Army Forces Strategic Command
- U.S. Army Europe Aviation Safety Office

## BIRD STRIKES and ANIMALS on RUNWAYS are examples of HAZARDS to human HEALTH and SAFETY

of features on and near the airport that attract wildlife.

- A description of wildlife hazards to air operations.
- Recommended actions for reducing identified wildlife hazards to air operations.

The U.S. Army Combat Readiness/Safety Center's (USACRC) Air Task Force (ATF) conducted research into recent Army aviation accidents using the USACRC's Risk Management Information System (RMIS), and data showed an increased trend of loss due to bird strikes at some airfields. Further investigation found that only four Army airfields have contacted the WS for assistance in assessing wildlife hazards and developing WHMPs.

In an effort to ensure installations are aware of these wildlife hazard programs, the ATF coordinated an initiative with the assistance of the following:

- U.S. Army Aviation Branch Safety Office
- Eighth U.S. Army, Korea

It was determined AR 95-2 fully covers airfield operations in regard to a wildlife hazard and the DOD MOU with the WS is current. Your installation should leverage the assistance of the WS if you are experiencing wildlife hazards to aviation operations at airfields inside or outside the continental United States.

Using WHAs and developing WHMPs can be mutually beneficial to wildlife by protecting it from injury and to the Army by improving aviation safety and preventing loss. For additional information, the DOD MOU with the WS, along with an example of a WHA, WHMP and other documents, are available on the USACRC ATF Web page at <https://craapps22.crc.army.mil/atf/index.asp> under the "Resources" tab. ◀



# Handling Shoulder Drop.

**BOB VAN ELSBERG**  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

**I** was really enjoying the afternoon on my motorcycle as I threaded the winding curves on Honey Springs Road, east of San Diego. Cheryl, my new girlfriend, was riding with me and seemed to be relaxing and enjoying the ride.



# Drop-offs



I crested a low rise with what appeared to be a fairly easy right-hand curve. However, the road was crowned (higher in the center and lower on the sides) instead of banked, which would have helped me stay in my lane during the turn. Unable to see into the turn, I was going too fast and began to drift across the oncoming lane toward the left-hand shoulder. I heard and felt the “thump-thump” as my front and back tires ran off the drop-off and onto the left shoulder. I suddenly found

If I'd tried to climb that drop-off without slowing down, chances were I'd dump the bike, injuring both Cheryl and myself. That's not the way I wanted the ride to end.

Fortunately, I got the bike stopped safely. And while I did not repeat that mistake on a motorcycle, there have been times when, perhaps because of inattention, I have allowed my car's passenger-side tires to drift off the road. When that has involved a shoulder drop-off of more than a couple inches, getting back onto

can be a real attention-getter, regardless the type of vehicle you may be driving.

If you find yourself in this situation, the following tips may help you avoid becoming an accident statistic:

- Let the vehicle slow down gradually. Brake gently — if at all — so you maintain control of your vehicle.
- Look at the traffic situation. If you see oncoming traffic or traffic in your lane approaching from behind, let those vehicles pass before attempting to get back onto the road. Scan the road ahead for a spot where the pavement edge and shoulder height are as close to the same height as possible. The less the difference in height, the easier and safer it will be to maneuver back onto the road surface.

- Before trying to drive back onto the road, move your vehicle 12 to 18 inches to the right on the shoulder. This will allow you to return to the road surface at a more gradual angle and get a running start before climbing over

the pavement edge.

- Steer gently to the left — about one-eighth to one-quarter turn — so your tires climb the edge at an angle. Avoid panicking and trying to quickly steer back onto the roadway.

- As soon as your right-front tire climbs back onto the road, steer gently about one-eighth to one-quarter turn to the right to center your vehicle in your lane. Only after all four wheels are safely on the road should you attempt to accelerate to the speed limit.

**Warning:** If the drop-off is straight down and 4 inches or more in depth, or if you don't properly straddle the pavement's edge, your right-rear tire can rub against the drop-off's edge as you try to get back onto the road. Should this happen, it can send you swerving to the left and into oncoming traffic no matter how hard you steer to the right. ◀

*(Editor's Note: Some of the information for this story was provided courtesy of Safetyline magazine).*

“ I suddenly **FOUND MYSELF** “threading the needle” — **TRYING** to **AVOID** going into **A DITCH ...** ”

myself “threading the needle” — trying to avoid going into a ditch just to my left while also trying not to angle back toward the road on my right. The road was at least 3 inches higher than the shoulder.

the road sometimes has been a hairy experience. Nowhere is that more common than in construction areas where a newly paved road may have a drop-off of 4 or more inches. That



Exceptional Organization  
Army Safety Office  
Washington, D.C.

**O**n behalf of the Secretary of the Army and Chief of Staff, Army, Brig. Gen. Bill Forrester, director of Army safety and commanding general of the U.S. Army Combat Readiness/Safety Center, recently announced the Army Safety Award recipients for 2007.

These awards showcase the accident prevention efforts of units and individuals in preventing Soldier, civilian and Family member losses in our formations, as well as in the workplace and within our military communities.

The Secretary of the Army and Chief of Staff, Army, Safety Awards consist of nine awards in three categories. The Army Headquarters Safety Award recognizes Army commands (ACOM), Army Service Component Commands (ASCC) and Direct Reporting Units (DRU) that have demonstrated significant improvements, sustained excellence and leadership in their accident prevention programs. The Army Exceptional Organization Safety Award is awarded to the battalion through division and garrison organization with the most effective overall safety program. The Individual Award of Excellence is presented to individuals who make the most significant

contribution to accident prevention in each of four categories: officer, noncommissioned officer/enlisted, Department of the Army civilian and contractor.

#### **CSA Army Headquarters Safety Award**


The Army Materiel Command (AMC), based at Fort Belvoir, Va., is the recipient of the Army Headquarters Safety Award for fiscal 2007. AMC demonstrated significant improvements in its overall safety program, excellence and leadership with accident reduction programs, resulting in an 11-percent decline in its lost workday rates between fiscal 2006 and 2007 and a 29-percent accident reduction from the 2002 baseline.

AMC Headquarters' establishment of a Workers Compensation Advisory Group, which provides guidance and review of installation commanders' progress in reducing civilian occupational injuries/

illnesses and workers' compensation costs, was instrumental in reducing fiscal 2007 costs by more than \$673,000. AMC established the Safety Rapid Review Team, which is a multi-disciplinary team of safety, industrial hygiene and occupational health professionals that provides direct assistance and specific recommendations to AMC commanders to enhance risk management implementation and improve their overall safety and occupational health posture. The team visited 22 installations/activities in fiscal 2007.

#### **CSA Exceptional Organization Safety Award**

The 82nd Airborne Division (primarily based out of Fort Bragg, N.C.); 16th Cavalry Brigade (U.S. Army Armor School, Fort Knox, Ky.); 83rd Ordnance Battalion (Headquarters, 1 Corps (Forward) and U.S. Army Japan); and Area Support Group-Qatar (Camp As Sayliyah,



Qatar) earned the Army Exceptional Organization Safety Award.

The 82nd Airborne Division implemented an aggressive accident prevention plan which included defensive driver course (DDC) attendance for Soldiers under the age of 26 and driver improvement training for Soldiers with moving violations. Motorcycle DDC attendance before operating a motorcycle and development of a Motorcycle Mentorship Program contributed to the division attaining more than 400 days (Aug. 27, 2006 through Oct. 6, 2007) without a privately owned vehicle (POV) or privately owned motorcycle (POM) fatality.

The division developed the Individual Trooper Risk Assessment counseling form to assist the first-line supervisor in identifying high-risk troopers. The initiative is part of the monthly counseling process and is mandatory for all E-5s and below to aid in the risk mitigation process. The 82nd Airborne Division provides and requires all new Leaders to receive additional composite risk management (CRM) training during their integration phase. Other efforts, such as aggressive information

campaigns, safety briefings, incentives and safety stand-down days, were noted as positively contributing to the significant accident reduction in fiscal 2007.

The 16th Cavalry Regiment demonstrated the highest level of safety awareness while simultaneously executing tracked vehicle maneuver and tank live-fire gunnery training. Despite almost doubling its operations tempo, the 16th Cavalry Regiment decreased its accident rate by almost 70 percent in fiscal 2007 and successfully completed the year without a fatality. Additional mitigation measures used by the command that significantly contributed to accident reductions

in fiscal 2007 included safety stand-down days, a unit safety incentive awards program for both individuals and units, completion of the Composite Risk Management Basic Course by all unit Soldiers and the incorporation of CRM into every aspect of training and mission tasks.

The 83rd Ordnance Battalion achieved the highest level of safety awareness while executing its ammunition supply, maintenance and demilitarization mission.

Over the past seven years, the battalion conducted 29 port operations, received 13,500 short tons and shipped more than 10,500 short tons of munitions without a Class A, B or C accident. The battalion disposed of 350 short tons of munitions over the past seven years using the

burn pad technique without a single mishap, which is directly attributable to following standing operating procedures (SOPs) and application of CRM. Several additional efforts, including 100 percent command completion of the Commander's Safety Course, increased seat belt usage, toolbox meetings, safety messages, increased safety training and information sharing, were noted as positively contributing to significant accident reductions in fiscal 2007.

Area Support Group-Qatar demonstrated organizational safety excellence by achieving the Department of the Army's goal of a 20-percent reduction in recordable accidents in fiscal 2007 over fiscal 2006 totals. Area Support Group-Qatar achieved zero deficiencies during the Third Army and Army Central (ARCENT) Command safety inspection in April 2007. Other efforts, such as safety council meetings, safety surveys and the incorporation of CRM into every aspect of operations, were noted as positively contributing to significant accident reductions in fiscal 2007.

### **CSA Individual Award of Excellence in Safety**

Chief Warrant Officer 5 John Green (1st Battalion, 111th Aviation Regiment); Sgt. 1st Class Joseph M. Kaufman (Support Battalion,



196th Infantry Brigade); Mr. Douglas Day (Radford Ammunition Plant); and Mr. Robert East (Area Support Group-Qatar) were recipients of the Individual Award of Excellence in Safety.

recognized a need, recommended action and received the battalion commander's concurrence for establishment of a battalion safety council, to include identifying individuals to serve as council

reductions. Day's attention in other areas of the safety program, including training, supervising demolitions, enforcing seat belt usage, onsite evaluations and accident investigations were noted as contributing significantly to accident reductions in fiscal 2007.

East's efforts contributed to the command achieving the Department of the Army's goal of a 20-percent reduction in recordable accidents. Area Support Group-Qatar ended fiscal 2007 with 13 recordable accidents, compared to 16 recordable accidents in fiscal 2006. East achieved zero deficiencies on the Third Army and ARCENT command safety inspection, which resulted in three commendable and seven sustain ratings. East's use of additional accident reduction measures, including onsite evaluations, accident investigations, information sharing and safety meetings, were noted as positively contributing to significant accident reductions in fiscal 2007.

Congratulations to all the fiscal 2007 winners. Nominations for the fiscal 2008 Army Headquarters Safety Award, Army Exceptional Organization Safety Award and Army Individual Award of Excellence in Safety may be sent from Army Headquarters (ACOM, ASCC, DRU) to the Office of the Director of Army Safety (DASAF), 223 23rd Street, Alexandria, VA 22202, or electronically to [ASO@hqda.army.mil](mailto:ASO@hqda.army.mil). Army Headquarters should select and forward one nomination for each category no later than November of each year. Nominations are submitted on an annual basis. ◀

**Other EFFORTS, such as SAFETY COUNCIL MEETINGS, safety SURVEYS and the INCORPORATION OF CRM into every aspect of OPERATIONS, were NOTED as POSITIVELY contributing to SIGNIFICANT ACCIDENT REDUCTIONS in fiscal 2007.**

Green demonstrated a proactive approach and engaging leadership, which allowed the Aviation Task Force-Kuwait to fly more than 4,000 sorties for nearly 11,000 flight hours, delivering 4,000 passengers and more than 2 million pounds of cargo without a Class A, B or C accident. He spent countless hours coaching and teaching Sailors on risk mitigation – specifically CRM – thereby ensuring a common safety language among team members of the joint aviation task force. Green's employment of additional mitigation efforts, such as completion of the Composite Risk Management Basic Course by command Soldiers, seminars on POV and POM safety, emphasis on ground safety and revision of the battalion's SOPs on Army Motor Vehicle operations, were noted as positively contributing to significant accident reductions in fiscal 2007.

Kaufman played a key role in overhauling the battalion's safety program, integrating the primary initiative: engaged Leaders, an effective safety training program and personal accountability. He

recognized a need, recommended action and received the battalion commander's concurrence for establishment of a battalion safety council, to include identifying individuals to serve as council members. Kaufman's involvement in educating personnel assigned to the Support Battalion, 196th Infantry Brigade, in POM operations resulted in the battalion experiencing zero Class A, B or C POM accidents over the past five years. He was also instrumental in promoting safety by reviewing and updating existing safety policies and procedures, conducting facility walk-through inspections, conducting weekly safety briefings and advocating the implementation of CRM into all unit activities. Kaufman's continuous diligence was noted as positively contributing to significant accident reductions in fiscal 2007.

Day implemented changes to his organization's safety program that have brought it to the highest level of commendation. He instituted a foreign object debris (FOD) control and reporting process that resulted in a 50-percent reduction in FOD incidents for fiscal 2007. Day proactively used CRM to mitigate mishaps and near misses and increased personal protective equipment training and awareness that directly contributed to injury



# USACRC

## *Honored for*

PAULA ALLMAN  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

**T**he U.S. Army Combat Readiness/Safety Center (USACRC) was recently recognized for its commitment and excellence to safety with the Army Aviation Association of America's (AAAA) Robert M. Leich Award.

The award was presented to Brig. Gen. Bill Forrester, commanding general of the USACRC and director of Army safety, and Command Sgt. Maj. Tod Glidewell April 14, 2008, at AAAA's annual convention in National Harbor, Md.

Forrester accepted the award on behalf of the entire Army

in recognition of the sustained superior safety performance achieved in 2007. The Army concluded fiscal 2007 with a 20-percent reduction in Army aviation accidents from 2006. The reduction is credited to increased safety awareness and implementation of safety tools and programs Armywide.

Challenged by the Chief of Staff of the Army to lead our force in a safety transformation, the USACRC supports Army Leaders in assessing loss trends and uses cutting-edge technology to develop innovative tools and training programs focused on reducing accidents Armywide.

In 2007, the USACRC deployed 16 accident investigation teams worldwide, working more than 1,500 man-days. The efforts of these teams and the resulting input to the USACRC's Digital Collection,



Analysis and Integration Lab provided the U.S. Army Aviation Warfighting Center's Aircraft Shoot Down Assessment Team critical analysis needed for the development of new tactics, techniques and procedures to avoid further combat losses of aircraft and crews.

Embracing the need for culture change, the Army implemented safety programs developed by the USACRC such as the Army Readiness Assessment Program (ARAP), designed specifically to target an

organization's safety climate and culture. ARAP provides battalion commanders and Leaders of equivalent-sized organizations an uncensored view of what is happening "below the waterline" in their units. During fiscal 2007, 165 aviation units Armywide participated in ARAP, accounting for 59,539 military and civilian personnel.

More than 128 Army officers from the active and reserve components, including 15 allied officers, supported continuing education in the safety field

by attending training courses at the USACRC. Additionally, the Armywide application of the Family Engagement Kit, developed by the USACRC, successfully bolstered the "battle buddy" concept between Families and Soldiers, empowering Family members to engage in best practices.

The USACRC was previously honored with the Robert M. Leich Award in 1985.◀

# Transforming Army Culture

TAYLOR BARBAREE  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

USACRC hosts Senior Safety Symposium

*Editor's note: The comments from Senior Safety Symposium participants are their opinions and observations and do not necessarily reflect Army policy or the U.S. Army Combat Readiness/Safety Center's position.*

**In an effort to actively reduce Soldier losses, as well as understand ongoing trends relating to safety culture, the U.S. Army Combat Readiness/Safety Center recently hosted a three-day Senior Safety Symposium.**

The biannual event focused on the overall accident losses the Army has experienced this fiscal year, accident trends, human factor involvement, safety culture transformation in the force and best safety practices. The theme of this year's symposium was "Transforming Army Culture through Engagement."

Keynote speaker Gen. Charles C. Campbell, commanding general, U.S. Army Forces Command (FORSCOM), spoke about the challenges facing FORSCOM.

"There is a massive amount of change in the Army today," Campbell said. "We are transforming at a rapid pace. ... We are deploying three combat brigade teams in Iraq over

the next three months. There is continuous substitution. Skill sets are different; therefore, the challenges presented to

you as safety specialists are more challenging. One way to meet these challenges is to be 'drivers of change' and be interactive in

## A LEADERSHIP CHALLENGE

**O**ne Army safety director would like to see Soldiers receive additional driver's training before heading to theater.

Col. Will G. Merrill III,

U.S. Army Central Command safety director, said if he could change one thing in the Army, he would add a week to all entry-level training programs to include driver's training and

testing. He also believes that the addition of unit driver trainers/instructors ("instructor pilots," of sorts) to conduct check rides might improve driver performance through feedback similar to







the adaptation of these agents."

Campbell believes boots on the ground provide capabilities that no technology could ever replace, and engagement at every level is a necessity.

"All Soldiers make

choices, and there are always consequences with those choices," Campbell said. "Soldiers have an exaggerated sense of immortality, which is why they purchase motorcycles and drive them at high rates of



# CHALLENGE

**CHRIS FRAZIER**  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

what is done in aviation units.

Although Merrill recognizes driver training won't solve all the Army's problems, he said it will help Soldiers cope with one of the most unexpected dangers they'll experience in theater.

"Some of the drivers on the roads in the Middle East have little or no formal driver training, and their roads are significantly different than those at home," Merrill said. "When the traffic is unpredictable, even experienced Soldiers can have difficulty operating a vehicle safely. Soldiers tend to assimilate into their environment. They end up driving too fast for their abilities and

unknowingly reduce their ability to safely react and maneuver when hazards appear. Then, there is also a segment of our force that lives dangerously because they're drawing hazardous duty pay. That is a leadership challenge."

Merrill said another area of concern is ground guiding the multitude of vehicles at the staging yards during convoy preparations.

"The most common mistake we've seen when Soldiers attempt to ground guide a vehicle is they drift out of sight of the driver," Merrill said. "Fortunately, good supervision has prevented serious losses, but we have had one

Soldier killed and two others injured while trying to do the right thing the wrong way. Leaders need to emphasize that the driver should immediately stop if he loses sight of his guide."

The most critical key to Soldier survival, however, remains proper supervision from Leaders, Merrill added. However, during decentralized operations, such as those situations units encounter upon deployment, key Leaders are spread thin. Merrill said those Leaders need to tap into the power of their junior Leaders, right down to the newest private in the unit.

Merrill would also like to see the use of battle buddies become a

requirement. He said Soldiers listen to their buddies, and that can help Leaders supervise more efficiently if it's done properly. However, it needs to start at home station.

"We see a lot of unusual things here that Soldiers are not accustomed to and may not handle well if their Leaders are not actively engaged in supervising and enforcing the standards," Merrill said. "It doesn't matter how well trained that 25-year-old sergeant is. When he gets out there, it's going to challenge all of his abilities to keep his Soldiers doing the right thing the right way." <<

# “**BOOTS ON THE GROUND** provide that **NO TECHNOLOGY** could ever replace **ENGAGEMENT** at every level is a **NE**

speed, which indicates to me that they are not wise about being safe. Somehow, we have to ensure they are making wise decisions with their choices.”

Brig. Gen. Bill Forrester, director of Army safety and commanding general of the USACRC, added that safety officials play an important role in ensuring loss of Soldiers remains at a minimum.

“We have been given some tough goals to achieve this

fiscal year in preventing losses among our ranks,” Forrester said. “One way we are going to be able to achieve these goals is through your work and dedication as safety specialists. Please remain vigilant with our initiatives to better integrate our safety plan

as part of our safety culture.”

The symposium also covered topics such as deployment safety and hazards and risks with Col. Will G. Merrill III, U.S. Army Central Command safety director; deployment lessons learned with Col. Robert

## **BRIGADE COMBAT TEAMS LESSONS LEARNED**

**BOB VAN ELSBERG**  
U.S. Army Combat Readiness/Safety Center  
Fort Rucker, Ala.

**T**he safety lessons learned from deployments in Iraq can be tools to help save Soldiers' lives. William Del Solar, a safety officer with the 10th Mountain Division, spoke about what he called “Safety Preparation of the Battlefield” — the need for deploying units to get a handle on the accident problems they may face from those who've already deployed.

“I want to know the hazards,” Del Solar said. “Tell me what's happened in the past, what kind of accidents you've had. That's what I want to know.”

He explained that sharing information is important during Relief in Place and Transfer of Authority operations. Soldiers arriving in theater may encounter new or unfamiliar equipment. He cited, as an example, 5-ton trucks modified with the “Hunter Box,” an armor kit that limits the vehicle's cargo capacity to 650 pounds. He said some Soldiers coming into the theater might not be familiar with these modified vehicles and unknowingly overload them. In one such instance, an accident occurred that killed several passengers. Del Solar emphasized the importance of ensuring incoming Soldiers know the limitations

of the equipment they are taking over.

Del Solar also discussed the problems of operating in a country where construction or electrical work done by local contractors may not meet safety standards and can pose a threat to Soldiers. He pointed out that some of the locally available electrical components are of inferior quality and are prone to fail and catch fire. This problem, coupled with jury-rigged repairs, has sometimes led to electrical fires — one of Del Solar's biggest problems in theater.

One of the problems safety personnel sometimes encounter in theater is a “we're-at-war” attitude used as an excuse for taking safety shortcuts. Keeping that attitude from leading to losses in Soldiers, equipment or facilities was one of the challenges faced by Dave Mushtare, 10th Mountain Division safety director.

When dealing with committees and action councils regarding infrastructure, construction and future planning, Mushtare advised them that Department of Defense standards held them responsible for providing a safe and secure environment. When faced with the argument that those standards didn't apply

outside the United States, he'd remind them it was their professional and moral obligation to apply those standards wherever they were.

Mushtare explained the sense of mission urgency can sometimes get Soldiers killed in accidents. The “Warrior Ethos” — the responsibility Soldiers feel for their buddies — and the adrenaline that kicks in during combat can be a temptation to bypass safety. Keeping that in check is the responsibility of Leaders, Mushtare said. He said they must ensure pilots don't fly beyond their skills or their aircraft's capabilities. He added the same was true for vehicle drivers so they don't drive beyond their skills or outride their improvised explosive device detection systems. He emphasized the importance of pre-mission planning — including proper crew selection, performing preventive maintenance and pre-combat checks and ensuring mission briefs include the risk management controls — to preventing accidents.

Mushtare added that risk management must also be flexible enough to respond to the realities of combat.

“We must remember that on the battlefield, the enemy always has a vote in the

# **THE CAPABILITIES** **REPLACE, and** **NECESSITY.]]**

Noback, dean of the U.S. Army School of Aviation Medicine; and an overview of safety program accomplishments and goals by Tad Davis, deputy assistant secretary of the Army for Environment, Safety and Occupational Health.◀



outcome," he said. "There will be times when a split-second decision must be made. This is where the amount and quality of the training Soldiers have received will be a key factor."

Mushtare gave us an example a situation where Soldiers taking fire might need to take cover in a dark cave. Normally, time permitting, the cave should be checked with a source of light, such as a flashlight, before entering. However, when Soldiers are under enemy fire and the cave is their only refuge from injury and death, they would need to hustle inside and react accordingly to any threats. While combat will dictate taking higher risks at times, Mushtare warned it's important to avoid a mind-set where everything is seen as a life-or-death decision. Wherever possible, he said, Leaders must take the time to plan for less risky options.◀

## **DEPLOYMENT** **MEDICAL CONCERNS**

**PAULA ALLMAN**  
 U.S. Army Combat Readiness/Safety Center  
 Fort Rucker, Ala.

Deploying — it's part of everyday life in the Army. However, there are numerous medical and environmental factors that can degrade mission performance. Col. Robert Noback, dean of the U.S. Army School of Aviation Medicine, spoke at the Senior Safety Symposium about the medical community's major responsibilities when gathering information for a predeployment medical survey. He explained the major objective is to consider the risks present in the environment and recommend countermeasures to reduce those risks to preserve the health and performance of the unit.

"Iraq is the big show in town, followed by Afghanistan," Noback said. "There are many other places, such as the Philippines, that are forgotten about. The Horn of Africa is another 'forgotten war.'"

Going into these unfamiliar areas, Noback added, can present unusual and hard-to-predict hazards. This, along with the unfamiliarity that can come from working in a joint operations environment, may lead to incomplete safety cultures. For example, in Djibouti, animals Soldiers may only have seen in zoos may show up on running trails. While Soldiers are not likely to get attacked by a lion, they also shouldn't try to pet the hyenas.

In another instance, a Soldier developed a rash and went to medics to have it checked out. He was given hydrocortisone and steroid creams, but neither helped. Later, others in the unit developed the same rash and were sidelined. No one knew what the problem was until a local physician quickly identified that the rash was connected to a local insect. The insect, while uncommon in the U.S., was prevalent in the area where the Soldiers were deployed. Knowing what caused the problem, doctors could finally treat the rash properly and pass that information to others deploying to their location.

"When one person has an accident or makes a mistake, a whole unit can suffer,"

Noback said. He recognized that Soldiers and other service members are trying to do the right things. One of the most important things they can do, he said, is know what the previous unit went through so they can learn as much as possible from their lessons.

Infection risks such as malaria, tuberculosis, diarrheal illness and leishmaniasis, to name a few, can be found in the area of responsibility. Historically, most casualties are from disease and non-battle injuries. Most can be prevented with vaccination, good personal hygiene, proper use of insect repellents and consumption of water and food from approved sources.

Noback explained that joint operations can also create several problems for units that don't habitually work or train together. Different services may have different standards, equipment, cultural values and tactics, techniques and procedures. When working in a joint unit, service members may have to take on roles or responsibilities that are new or unexpected. It's important that differences are quickly resolved and rivalries reduced to the "just-kidding-around" stage. In today's environments, the experience level may not always match the rank or service; you might find an Airman or Sailor filling an Army billet. In the end, it's the guy with the right experience who needs to be listened to.

Fatigue is another unavoidable issue Soldiers face while deployed. However, Noback said, its effects can be minimized if Soldiers get enough sleep in a proper environment, preferably a dark, cool, quiet area.

Composite risk management has also proved to be a valuable tool for combating the multitude of issues service members face. Noback said Leaders getting engaged at all levels will help keep operational risks in check.◀

—Editor's note: Col. Noback recently returned from serving as the command surgeon, Special Operations Command Central.



## AVIATION

### CH-47



#### CLASS C

D Model

■ The left-side emergency escape hatch separated from the aircraft while in flight. Inspection revealed damage to the forward high-frequency antenna.

#### CLASS D

■ During the landing phase of a confined area operation, the aircraft rotor system came in contact with a small pine tree, which resulted in damage to all three rotor blades. The aircraft was landed, shut down

and the blades were inspected by a maintenance test pilot. The aircraft was cleared for a one-time flight to the Army Aviation Support Facility. Late report.

### MH-60



#### CLASS C

K Model

■ Post-flight inspection revealed tip cap damage consistent with a tree strike to three main rotor blades.

### UH-60



#### CLASS C

A Model

■ Post-flight inspection revealed damage consistent with a wire strike to the high-frequency antenna and underside of the fuselage. The crew negotiated wires, but did not experience any anomaly to indicate a strike.

➤ **IS YOUR LANDING AREA AS LARGE AS YOUR AIRCRAFT REQUIRES?**

➤ **WAS THE HAZARDS MAP UTILIZED AND WERE HAZARDS UPDATED ON FLIGHT MAPS AND ALONG THE ROUTE OF FLIGHT?**



## CLASS E

■ While conducting a paraprop mission, a CGU-1B cargo strap was removed from the cargo door area, allowing jumpers to exit the aircraft. As the paraprop team exited the aircraft, a Soldier knocked the ratchet end of the strap out of the aircraft. The strap contacted the surface of the door and flapped against it several times before the crew chief could secure the strap and pull it inside the aircraft. The aircrew completed the mission and returned to the airfield. Minor damage was found to the cargo door upon post-flight inspection. Late report.

## CLASS A L Model

■ The aircraft main landing gear sunk into soft ground during touchdown to an unimproved surface, allowing the aircraft nose section to contact a rocky surface. Post-flight inspection revealed possible damage to the airframe.

## CLASS C

■ The aircraft suffered damage to the main rotor blade (leading edge) as a result of a bird strike during flight.

## UAS

### MQ-5A



## CLASS A

■ The controller lost visual contact during landing approach in reduced visibility/ceiling conditions. The UAS landed short of the runway in rough terrain.

## GROUND

### Personnel Injury



## CLASS A

■ A Soldier suffered fatal injuries when he fell while visiting

a park. The Soldier was taking pictures on a boulder ledge when he lost his balance and fell 25 feet. He was evacuated to a local medical center for treatment but later died from his injuries.

■ A Soldier was found dead on a set of railroad tracks after being struck by a train.

## CLASS C

■ A Soldier fractured his back when he rode his snowboard off a 4-foot drop-off on the side of a mountain, lost control and crashed.

■ A Soldier fractured his back when the ladder he was working from slid off the house and fell to the ground. The Soldier landed on his back on top of the ladder.

## DRIVING

### POV



## CLASS A

■ A Soldier was driving his pickup truck with another Soldier riding as a passenger when he lost control, struck a parked vehicle and overturned. The passenger, who was not wearing his seat belt, was ejected and suffered serious head injuries. (See the story "Bing-Bang-Boom" in this issue of Knowledge).

■ A Soldier was driving his pickup truck after dark when he reportedly swerved to miss a deer and went off the road and struck a large tree. The Soldier was fatally injured.

■ A Soldier was driving his sedan and passing another vehicle on the right when he lost control and his vehicle

# ARMY >> AIRCRAFT LOSSES

Fiscal 2002 to Present

through May 13, 2008



Hostile/  
Non-hostile

AH-64A/D	11/51
U/MH-60A/L	8/28
C/MH-47	7/16
OH-58D	11/28

TOTAL 37/123

# ARMY >> GROUND LOSSES

Fiscal 2008

through May 14, 2008



Class A/Facilities

AMV	15/12
ACV	4/2
PERSONNEL INJURY includes weapons handling accidents	21/18
FIRE/ EXPLOSION	3/3
PROPERTY DAMAGE	1/0

TOTAL 44/35

# PLANNING SUMMER TR

**A**s we enter the summer months, many Soldiers are finalizing their travel plans for some much-deserved leave. Before hitting the open road, however, Leaders must ensure their Soldiers complete a Travel Risk Planning System (TRIPS) assessment.

TRIPS is an online automated risk assessment tool specifically designed for personnel using their privately owned vehicles (POV) or motorcycles during pass, leave, TDY or PCS. For fiscal 2007, Army personnel using TRIPS were 4.2 times less likely to have been involved in a fatal POV accident. With more than 3 million Army assessments completed since the inception of the tool, this is a positive impact on safety. Because it has been so effective in reducing Army fatalities,

it was also adopted by all military Services.

The key to the program's success is the way it involves Leaders with their Soldiers' travel plans. In addition to providing Leaders with details not reflected on a Soldier's leave form, it provides recommended actions to reduce hazards and also calculates the trip's overall risk. Armed with vital facts, Leaders may then elect to approve or disapprove the online assessment.

So, how does TRIPS work? Users provide risk-related information, including the type of vehicle they are using, departure time, travel distance, driver's age, driving courses attended and seat belt use. Other information collected includes vehicle safety inspections, driver rest before travel, driver medication or alcohol use, checking weather forecasts, whether the

driving will be during day or night, the type of road traveling on and planned rest stops.

Based upon the chosen parameters, TRIPS provides real accident summaries reflecting similar travel information, an initial risk level for the trip and recommendations with selectable mitigation measures to further reduce hazards. Those recommendations may include following medication directions and informing the chain of command of over-the-counter medications taken, checking the weather before traveling and taking precautions for driving at night or on two-lane roads. In addition, to prevent driver fatigue, the assessment may suggest periodic rest stops or sharing driving responsibilities.

Users receive a final risk calculation based on the mitigation measures taken, and then

overturned. The Soldier, who was not wearing his seat belt, suffered critical injuries and later died.

and even enrolled him in the installation riders' training course.

■ A Soldier was operating his sportbike when he struck a curb, crashed into an adjacent creek and was killed. The

**DO YOUR SOLDIERS UNDERSTAND THAT PASSING ON THE RIGHT IS DANGEROUS AND, IN MANY CASES, ILLEGAL?**

■ A Soldier was operating his cruiser-type motorcycle when involved in a single-vehicle accident. The Soldier injured his spine and was diagnosed with total paralysis.

**POM**



## CLASS A

■ A Soldier died two days after purchasing a new sportbike when he was riding at high speed, lost control and veered into the path of an oncoming sport utility vehicle. The Soldier wore a helmet but was unlicensed and had not attended Motorcycle Safety Foundation (MSF) training. The Soldier's chain of command was aware of him considering the purchase, had asked him to delay buying

**POV DRIVING LOSSES**  
Fiscal 2008

through May 14, 2008 Class A accidents/Soldiers killed

<b>CARS</b>	<b>31/31</b>
<b>SUV/JEeps</b>	<b>6/7</b>
<b>TRUCKS</b>	<b>8/6</b>
<b>MOTORCYCLES</b>	<b>26/25</b>
<b>OTHER*</b>	<b>2/2</b>

\*Includes: vans and ATVs

**71**  
**TOTAL DEATHS**  
Fiscal 2007: **63** 3-year average: **70**



# rips?

the tool provides them with driving directions and a map. TRIPS enables users to electronically submit their assessments to their supervisors and also fill out a partially completed leave form.

TRIPS is not intended to replace the supervisor's role in approving leave, nor should it become a check-the-block system to provide a paper trail after an accident. The intent of TRIPS is to involve Leaders in their Soldier's travel plans and give them an effective tool to protect the Army's most valuable asset — its personnel. ◀

Soldier was licensed, had MSF training and was wearing his personal protective equipment.

**DO YOUR RIDERS UNDERSTAND THAT PROPER LANE POSITION WILL GIVE THEM A BUFFER AGAINST HAZARDS IN THE ROAD?**

■ A Soldier was operating a borrowed motorcycle in a residential area when he struck the rear of a parked vehicle and was thrown from the bike. The Soldier, who was not wearing a helmet, suffered fatal head injuries.

*Editor's note: Information published in the accident briefs section is based on preliminary loss reports submitted by units and is subject to change. For more information on selected accident briefs, e-mail [knowledge@crc.army.mil](mailto:knowledge@crc.army.mil).*



■ A Soldier was driving his sedan and passing another vehicle on the right when he lost control and his vehicle overturned. The Soldier, who was not wearing his seat belt, suffered critical injuries and later died.

# WEAR YOUR SEAT BELT

## » CORRECTION

In the February issue of *Knowledge*, the Soldier featured in the centerfold poster is wearing unauthorized eyewear. Soldiers are not authorized to wear colored tints, other than smoke-colored lenses, because they block the transmission of specific colors, which may increase operational risk. The *Knowledge* staff regrets the error. For more information on the authorized protective eyewear list, visit <https://peosoldier.army.mil/pmseq/eyewear.asp>.

# **SPEED KILLS LEADERS TOO**

**ESTIMATED SPEED - 140 MPH**

An NCO was operating his sportbike at a high rate of speed when he lost control, went off the road and crashed into a tree. The NCO, who was wearing all his personal protective equipment, was evacuated to a local medical center, where he was pronounced dead.

## **Engaged Leaders Make a Difference**

- Did you know that more than two-thirds of single-vehicle accidents result from excessive speed?



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**Boating Under the Influence is**

**ILLEGAL**

**NATIONWIDE**



# 101

**CRITICAL  
DAYS OF SUMMER**  
26 May ~ 1 Sept 2008

"It is unlawful in every state to operate a boat while under the influence of alcohol or drugs. In addition to State Boating Under the Influence (BUI) laws, there is also a Federal law, enforced by the Coast Guard, prohibiting BUI. This law applies to all boats, including foreign vessels, in U.S. waters and U.S. vessels on the high seas."

*~U.S. Coast Guard*



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Each week, the  
videos containing  
judgments wh

MOTORCYC  
CLICK-  
DRIVING  
INFLUENC  
WATER



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IS ARMY STRONG**

# Let's Give Safety a Day Off



## CRITICAL DAYS OF SUMMER

26 May – 1 Sept 2008

The U.S. Army Combat Readiness/Safety Center will publish articles, posters and other information to help Soldiers use composite risk management in making sound decisions on and off duty. The following topics will be covered during the campaign:

VEHICLE SAFETY AWARENESS

HEAT-OR-TICKET

UNDER THE

HEAT/FATIGUE

VEHICLE SAFETY

YARD WORK SAFETY

FIREWORKS SAFETY TIPS

GRILLING AND FOOD PREPARATION

VACATION SAFETY

HEAT INJURY PREVENTION

INSECTS ATTACK

DRIVING SAFETY

SUN EXPOSURE

HIKING TIPS

CAMPING SAFETY

ADVERSE WEATHER